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13 May 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **ANTI-NLS SCFV AND PEPTIDES AND USES THEREOF IN NUCLEAR IMPORT INHIBITION**

(57) Abstract: The present invention relates to a substance that specifically binds a nuclear localization signal (NLS)-containing molecule. Said substance may be a naturally occurring, synthetic or recombinant antibody, or it may be a protein, a peptide or a small molecule. Preferably, said NLS-containing molecule is a HIV-1 protein, more preferably Vpr or Tat. In addition, the present invention relates to a composition or a vaccine comprising the substance of the invention, as well as methods of inhibiting viral infection through the administration thereof.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 03/00328

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K16/10 A61K39/42 A61K38/16 C07K14/005 A61P31/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, Sequence Search, MEDLINE, EMBASE, BIOSIS, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/28338 A (YISSUM RES DEV CO ;GILON CHAIM (IL); FRIEDLER ASSAF (IL); LOYTER A) 10 June 1999 (1999-06-10) page 4, lines 1-8,20-24 page 22, lines 14-28	1-3, 6-10, 14-17, 19-26
X	DUBROVSKY LARISA ET AL: "Nuclear localization signal of HIV-1 as a novel target for therapeutic intervention." MOLECULAR MEDICINE (CAMBRIDGE), vol. 1, no. 2, 1995, pages 217-230, XP008021708 ISSN: 1076-1551 page 217 ----- -/--	1-3, 6-10, 14-17, 19-26

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

10 September 2003

Date of mailing of the international search report

16. 01. 2004

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 03/00328

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/49038 A (WRAY VICTOR ;HENKLEIN PETER (DE); SCHUBERT ULRICH (DE)) 24 August 2000 (2000-08-24) claims 2,7-11 -----	1-3, 6-10,14, 16,17, 19-21,25
A	KARNI O ET AL: "A peptide derived from the N-terminal region of HIV-1 Vpr promotes nuclear import in permeabilized cells: elucidation of the NLS region of the Vpr" FEBS LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 429, no. 3, 16 June 1998 (1998-06-16), pages 421-425, XP004258047 ISSN: 0014-5793 the whole document -----	1-3, 6-10, 14-17, 19-26

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL 03/00328

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 16-24 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1, 6-8, 14-16, 19-26 (partially) 2, 3, 9, 10, 17 (completely)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,6-8,14-16,19-26(partially) 2,3,9,10,17(completely)

A substance that specifically binds nuclear localization signal (NLS) of the HIV-1 Vpr, related (pharmaceutical) compositions, vaccine, related methods according to claims 17,19-24.

2. claims: 1,6-8,14-16,19-26(partially) 4,5,11-13,18(completely)

A substance that specifically binds nuclear localization signal (NLS) of the HIV-1 Tat, related (pharmaceutical) compositions, vaccine, related methods according to claims 18-24.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL 03/00328

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9928338	A	10-06-1999	AU 754510 B2	21-11-2002
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			EP 1155035 A2	21-11-2001
			JP 2002540768 T	03-12-2002
